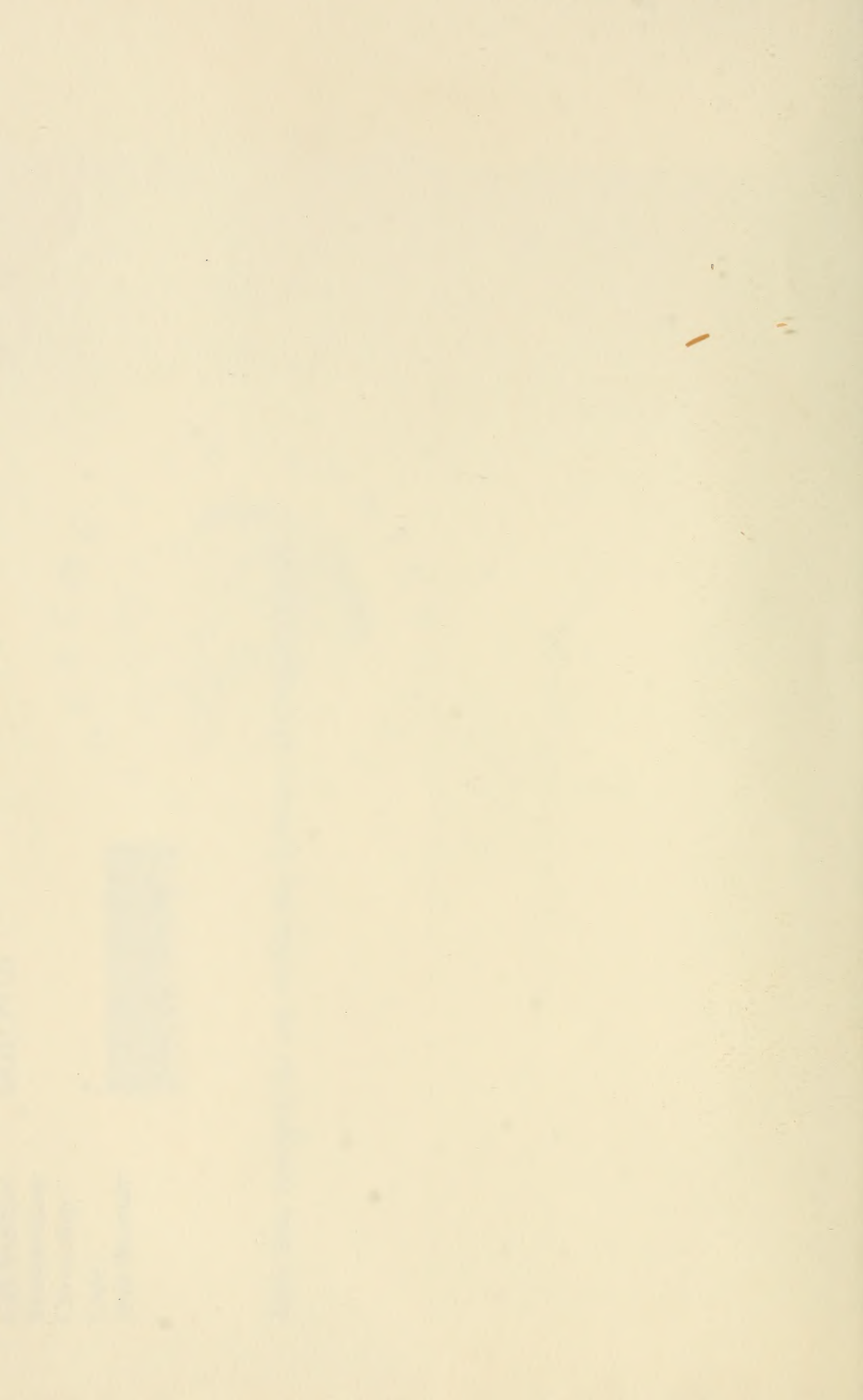


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Cooperative Extension Work in Agriculture and Home Economics
United States Department of Agriculture and State
Agricultural Colleges Cooperating

PEPPERS



UNITED STATES DEPARTMENT OF AGRICULTURE
DEPARTMENT CIRCULAR 160

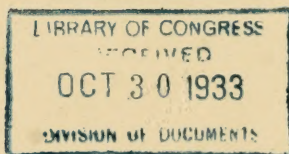
Contribution from the States Relations Service
A. C. TRUE, Director

Washington, D. C.

January, 1921

Monograph

GIRLS' CLUB WORK WITH SPANISH PEPPERS has resulted in the extensive cultivation of this much desired vegetable wherever the soil and climatic conditions are favorable to its growth. It has led to the increased use of pimiento or sweet pepper not only in the fresh state for the making of soups and salads, for flavoring and garnishing, but also preserved, alone, or used in combination with other food products in the making of such palatable dishes as Creole Chicken. The club girls have standardized and placed on the market Dixie Relish, B. S. Chutney, and Creole Sauce, preparations largely made of sweet peppers, and they have learned to keep the peppers fresh by placing them in dry sawdust in order to supply the demand for fresh peppers out of season. The pepper work has been a means of adding to the family income.



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PEPPERS.

THIS CIRCULAR has been prepared for club members who are making demonstrations with Spanish peppers. Girls who are doing this should read and follow this circular carefully. The instructions on growing pepper plants were prepared by Mr. W. W. Tracy, of the Office of Horticultural and Pomological Investigations, Bureau of Plant Industry.

GROWING THE PLANTS.

The pepper plant is very similar to the tomato as to the conditions most favorable for its development and is even more sensitive, particularly when young, to checks in growth from cold, wet, or unfavorable conditions of soil. In order to get the best returns it is important that there be an unchecked growth from the time of starting the seed until the fruit has ripened. Not infrequently large vigorous plants will yield but very little fruit, and usually this can be traced to a cold, hard, ill-drained soil or to a check in the growth of the young plant from cold. It is wisest, then, to make sure of well-drained soil, to put it in the best possible mechanical condition, and to delay planting until one can be reasonably certain of constant warm weather with the least possible danger from cold or wet.

Very satisfactory crops are often grown from seed planted in place in the open field, but there is much greater probability of a good yield from the use of started plants, and very often the profit is determined by the character of the plant set.

In a general way the best soil to use is one made up of one-third by bulk of garden soil, one-third of well-rotted manure, and one-third of coarse-grained sand, but the best proportion of each will vary with its character. If the soil is heavy and compact, use less soil and more sand; if it is sandy, use more soil and less sand. If the manure is heavy and poorly rotted, take pains to make it as light as possible and use a larger proportion. It is important that the ingredients be well mixed, which can best be accomplished by throw-

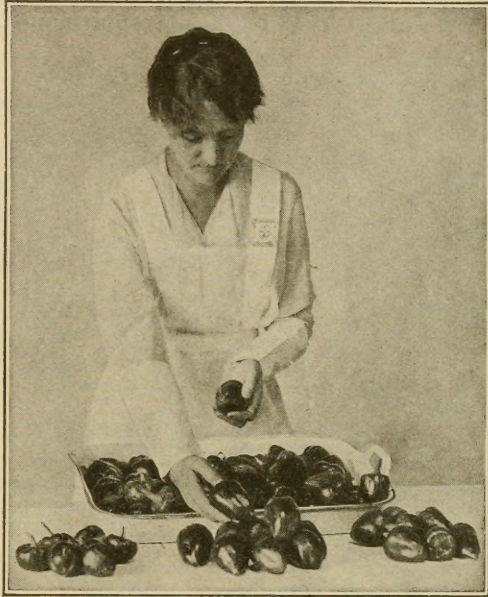


FIG. 1.—Sorting pimientos according to size and maturity before washing.

ing them into a conical heap, shoveling this over, and then passing it through a coarse sieve of about a half-inch mesh. Carefully level about 2 to 3 inches of this soil in a shallow box and water as thoroughly as possible without making it actually muddy. Let it stand for at least an hour and then add about one-half inch of fresh soil, and in this plant the seed either in drills about one-fourth inch deep or scatter over the surface and evenly cover with from one-fourth to one-half inch of the fresh earth. If the box is to be exposed to the sun, it is well to cover it with a paper, but care must be taken to remove this before the young plants appear, which they should do in from 7 to 12 days. The box should be kept where the temperature

can be held as uniformly as possible at 60° to 80° F. It might run higher in midday, but germination will be checked in proportion as it runs lower.

Care should be taken that the young plants are not allowed to be so crowded as to become bleached and tender. It is better to pull and transplant or even throw away some plants rather than have the whole planting permanently injured. As soon as the central bud is well developed the seedlings should be transplanted, setting them from 1 to 3 inches apart, according to the size at which it is planned that they should go into the permanent



FIG. 2.—Seeding, coring, and peeling roasted pimientos before packing.

place in the field. Care should be taken that the soil of the plant bed is such that there is little danger of its becoming compact and hard, but will remain so friable as to enable the plants to be pulled for setting with the least possible injury to the roots. During the germination of the seed and the growth of the young plants carefully avoid overwatering. Don't water unless the plants show by a tendency to wilt that they need it; then give an abundance. It is much better if this be done in the morning or evening rather than at midday. For five or six days before transplanting, allow the beds to get as dry as possible without the plants wilting; then 8 to 12 hours before the plants are to go to the field give the bed an abundant watering.

In the meantime the soil of the field should have been made as friable as possible by repeated cultivation. If it is liable to be infested by cutworms, keep it clear of every germinating weed for 10 days before setting the plants, and about 24 hours before setting them scatter cut clover which has been sprinkled with Paris-green water. The hungry worms will go long distances to reach this green food and many of them will be killed.

In order to facilitate the gathering of the fruit with the least possible injury to the plants, it has been found advantageous to

leave every fourth row vacant, if necessary crowding the plants which should go into the fourth row with those in the other three rows.

After setting the plants, give the field a thorough cultivation, which should be repeated as often as practicable without injuring the plants.

CANNING PEPPERS.

The fruits of the mild-flavored varieties of Spanish peppers (used in canned pimientos) differ from the ordinary sweet bell pepper in that they have a much thicker meat, a very tough skin, and are smooth in contour, being comparatively free from ridges. These peppers upon being heated develop a juice which, when mixed with

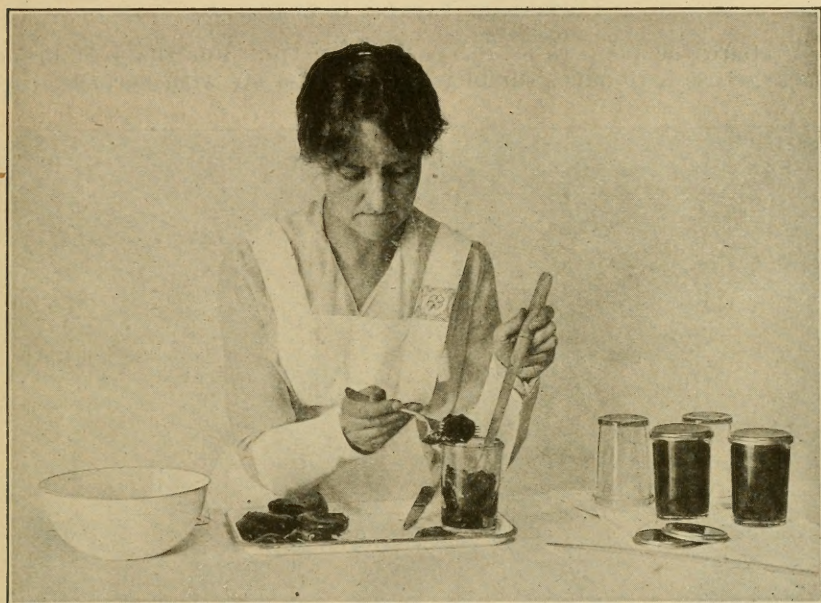


FIG. 3.—Packing pimientos.

water, makes an unpleasant slimy mixture. For this reason no water is used in their preparation for salads or in canning.

The peppers should be picked in the early morning and handled carefully, to prevent bruising. This can be done by placing them in shallow trays, from which they can be easily sorted (fig. 1). The medium-sized, uniformly sound peppers should be canned whole. The irregular, broken ones may be cut into strips and canned or used in relishes, sauces, or soup mixtures.

STANDARD PACKING IN TINS.

Select sound, uniform peppers of medium size. To remove seeds, cut around the stem of each with a slender paring knife and remove the inside partitions. To peel, place the peppers in a hot oven from 6 to 10 minutes (until the skin blisters and cracks), being careful not to allow them to burn. Then remove the skin with a slender paring knife (fig. 2). Flatten the peppers and pack in horizontal

layers. Place whole, uniform peppers in the cans, packing them to within $\frac{1}{4}$ inch of the top of cans.

The net weight of the standard pack should not be less than 1 pound in a No. 2 can and 8 ounces in a flat No. 1 can. No liquid is used. The processing brings out of the peppers a thick liquor which almost covers them in the can or jar. Cap and exhaust flat No. 1 cans for 2 minutes and No. 2 cans for 3 minutes. Tip and process in hot water at boiling temperature, the flat No. 1 cans for 15 minutes, the No. 2 cans for 25 minutes.

Creole sauce (recipe given on p. 9) is packed in No. 1 or No. 2 tins. Exhaust No. 2 cans 5 minutes and process at boiling temperature for 25 minutes.

STANDARD PACKING IN GLASS.

Prepare the peppers as for packing in tin. For the 4-H brand package use a 10-ounce tumbler-shaped glass jar with hermetic cap.

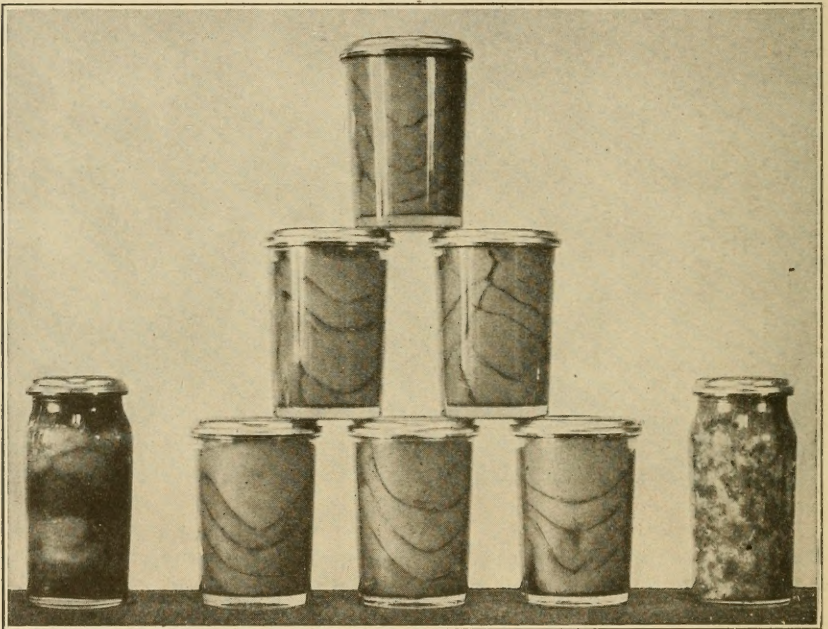


FIG. 4.—Special fancy packs of pimiento products.

This jar should contain, packed in flattened horizontal layers, six whole peppers. The jar should be well filled and in some cases seven peppers may be necessary for a full pack. (Figs. 3 and 4.) Cap, clamp, and process for 20 minutes. Do not remove the clamp until the jar is thoroughly cold.

The strips and cubes cut from irregular and broken peppers may be packed in pints and quarts for home use. Process pint jars for 20 minutes and quart jars for 30 minutes.

The best way to chop the vegetable ingredients uniformly is to put them through a food chopper.

RECIPES.

NOTE.—All measurements are level.

STUFFED PEPPER MANGO.

Soak sweet peppers in brine (1 cup salt to 1 gallon water) for 24 hours. When ready to stuff, take from brine, rinse in fresh water, carefully cut a circle off the top of each pepper, and save same, to be placed on peppers after stuffing. Remove the seeds and white sections. Soak in clear cold water for one to two hours. Drain carefully. Stuff with Dixie relish, being careful not to press it in too tightly. Place top on the pepper and make secure by one or two stitches or by tying it on. Pack as many stuffed peppers as can be placed in the jar without crushing. Then fill the jar to overflowing with a spiced vinegar. Process for 15 minutes in quart jars.

SPICED VINEGAR.

$\frac{1}{2}$ gallon vinegar.	$1\frac{1}{2}$ tablespoons mustard seed.
$\frac{1}{2}$ cup grated horse-radish.	1 tablespoon salt.
$1\frac{1}{2}$ tablespoons celery seed (crushed).	1 tablespoon cinnamon.
1 cup sugar.	

Cloves, nutmeg, and grated onion may be added, if desired.

DIXIE RELISH.

1 quart chopped cabbage or chayotes.	4 tablespoons mustard seed.
1 pint chopped white onion.	2 tablespoons celery seed (crushed).
1 pint chopped sweet red pepper.	$\frac{3}{4}$ cup sugar.
1 pint chopped sweet green pepper.	1 quart vinegar.
4 tablespoons salt.	

Soak the pepper in brine (1 cup salt to 1 gallon water) for 24 hours. Freshen in clear cold water for one or two hours. Drain well. Remove seeds and coarse white sections. Chop separately, and measure the chopped cabbage, peppers, and onions before mixing. Add spices, sugar, and vinegar. Let stand over night covered in a crock or enameled vessel. Pack in small sterilized jars.

The standard pack will be in a vase-shaped 10-ounce hermetic jar. When ready to pack drain the vinegar off the relish in order that the jar may be well packed. Pack the relish in the jars, pressing it carefully; then pour over it the vinegar which was drained off. Paddle the jar thoroughly to get every bubble out and allow the vinegar to displace all air spaces. Garnish each jar with two quarter-inch pointed strips of red pepper 3 inches long. Place these strips vertically on opposite sides of the seams of the jar. Cap, clamp, and process for 10 minutes at boiling temperature.

B. S CHUTNEY.

Red part:	Yellow part:
2 cups pimiento (measured after cutting into $\frac{1}{2}$ -inch squares).	1 pint small yellow fig tomatoes (preserved), or
$\frac{1}{2}$ cup sugar	1 pint gingered watermelon rind or gingered chayote.
$\frac{1}{2}$ cup lemon juice.	
$\frac{1}{2}$ teaspoon salt.	
2 hot peppers.	

Red part.—Peel the peppers according to the instructions given for canning. Chop sweet and hot peppers together, add sugar and lemon juice and let stand in an enameled vessel or crock for 12 hours. Drain off the liquor and allow it to simmer for 10 minutes. Pour it over the peppers again and let stand for 4 hours. Simmer the liquor again for 15 minutes, allowing the peppers to remain in while simmering.

Yellow part.—Use 1 pint preserved yellow tomatoes, or pint chopped gingered watermelon rind or gingered chayote. The preserved yellow tomatoes should be kept as nearly whole as possible. If the gingered watermelon rind is used instead, for the yellow part it should be chopped or cut into small uniform pieces that will pack easily. Gingered chayote may be made just as the gingered melon rind is and $\frac{1}{2}$ teaspoon tumeric added to each quart for coloring. This is tied in a bag and removed as soon as desired color is obtained. Be careful not to let the product become too yellow.

A 10-ounce vase-shaped hermetic jar is an attractive package for this product. In packing, place the heavier color, red, at the bottom in a $1\frac{1}{4}$ -inch layer; then place a $1\frac{1}{4}$ -inch layer of yellow. Continue in this manner until the jar

is neatly filled. Combine the liquor and boil 5 minutes, strain, and pour it over the contents. Paddle to remove air bubbles. Cap, clamp, and process for 10 minutes. This may be packed for home use in pint jars and processed for 15 minutes.

The small yellow fig tomato used in the chutney recipe is the variety which may be used for green-tomato pickle and whole ripe-tomato preserves. This pack gives the colors of Spain, hence the suggestion, "Banner of Spain" from which the name B. S. Chutney is given.

SOME WAYS OF USING FRESH AND CANNED PEPPERS.

SALADS.

Salads to be most delicately served should be made of crisp, fresh fruit or vegetables, well chilled, and arranged attractively in a bowl or individual plate.

GREEN PEPPER AND CHEESE SALAD.

Select and wash three medium-sized green peppers. Cut around the stem of each with a slender paring knife to remove the seed and white sections. Stuff the inside of the peppers with cottage cheese, pressing it in firmly. Chill, and when ready for use cut the pepper into quarter-inch slices and place two or three of these slices in a nest of tender lettuce. Serve with a salad dressing.

RED PEPPER AND CABBAGE SALAD.

3 cups chopped cabbage.
3 sweet peppers (red or green).
 $\frac{1}{2}$ cup sugar.
 $\frac{1}{2}$ cup vinegar.

Salt and pepper.
 $\frac{1}{2}$ cup gelatin softened in $\frac{1}{2}$ cup cold water.

Mix all and set to mold in dishes which have been wet with cold water. Chill and allow to stand until firm. Serve on lettuce leaves with a salad dressing. Chayotes used in place of cabbage in this recipe make an attractive salad.

COMBINATION SALAD.

$\frac{1}{2}$ cup chopped green pepper.
 $\frac{1}{2}$ cup chopped red pepper.
 $\frac{1}{4}$ cup chopped onion.

1 cup tomato, cut into pieces.
 $\frac{1}{4}$ cup sliced cucumbers.
 $\frac{1}{4}$ cup chayote.

Chop separately, measure, mix, and serve in a bed of shredded tender lettuce. Serve with a French salad dressing.

SWEET RED PEPPER AND LETTUCE SALAD.

A very good salad can be made by using the small leaves of head lettuce with strips of bright-red sweet pepper. This salad is especially attractive when served with a small cheese ball on each plate. Roll the cheese into balls about the size of a walnut. These cheese balls may be made of cottage cheese or pimienta cheese.

Cottage cheese.—Take fresh clabber before it loses its best flavor by becoming too sour. Heat slowly until barely hot enough to separate the curd from the whey. This takes place much below the boiling point. Pour it into a thin cloth bag and allow it to drip for one or two hours. Turn the curd into a bowl and season with salt and pepper. Add one-half cup cream to about 1 pint of dry curd and mix thoroughly.

Pimienta cheese.—Chop finely two or three medium-sized ripe pimientos which have been baked until tender and peeled. Canned pimientos may be used. The peppers should be soft enough to make a smooth mixture. Cream the pimientos and curd together until a smooth mixture is obtained. This cheese may be used for a sandwich filling, for cheese balls, and also for the stuffing in the green pepper and cheese salad.

PEPPER AND EGG SALAD.

4 hard-cooked eggs.

| 2 medium-sized peppers.

Cook the eggs by dropping them carefully into a kettle of boiling water (about 2 quarts of water) and set the kettle where the water will not continue to boil. Allow the eggs to remain in this water, well covered, for 45 minutes before removing to chill and peel for the salad. Clean the peppers, cut into long strips or into circles, arrange the slices of pepper with slices of egg attractively on a nest of lettuce, and serve with a cooked salad dressing.

COOKED-CREAM DRESSING.

1 tablespoon flour.	2 tablespoons melted butter.
Yolks of 2 eggs.	1 cup milk.
1 teaspoon salt.	1 tablespoon sugar.
1 teaspoon mustard.	$\frac{1}{4}$ cup hot vinegar.

Mix the dry ingredients, mashing the lumps smooth with the back of a spoon. Slightly beat the yolks and mix in the dry ingredients; add 2 tablespoons melted butter, beating all the while; add 1 cup cold milk, stir well, and cook over a pan of hot water very slowly until the mixture coats a spoon. Now take from the fire and add one-fourth cup hot vinegar slowly. If the mixture should curdle, add 2 tablespoons cold water, set pan into cold water, and beat until it becomes smooth.

FRENCH SALAD DRESSING.

$\frac{1}{2}$ teaspoon salt.	$\frac{1}{2}$ teaspoon pepper.
2 tablespoons vinegar or lemon juice.	4 tablespoons olive oil.

Mix all ingredients and shake well in a bottle until well blended. French dressing is more easily prepared and widely used than any other salad dressing.

Other good combinations for salads are the following:

1. Strips of canned pimientos with pears. Serve with French dressing.
2. Circles of canned pimientos with three or four asparagus tips put through the circles. Serve these on lettuce with either French or cooked-cream dressing.

OTHER SUGGESTIONS FOR THE USE OF PEPPERS.

STUFFED BAKED GREEN OR RED PEPPERS.

Filling No. 1.

1 cup cold chicken.	1 tablespoon chopped parsley.
1 tablespoon chopped onion.	$\frac{1}{2}$ teaspoon salt.
2 tablespoons melted butter.	$\frac{1}{2}$ teaspoon pepper.
1 cup toasted bread crumbs or cooked rice.	1 slightly beaten egg.

Filling No. 2.

1 cup minced cold ham or chopped bacon.	1 tablespoon chopped onion.
1 tablespoon chopped parsley.	$\frac{1}{2}$ teaspoon pepper.
1 cup toasted bread crumbs or cooked rice.	1 cup tomatoes cut into cubes.
	Salt to taste.

Other cold meats may be ground, seasoned, and mixed with an equal quantity of bread crumbs or cooked rice, moistened with a slightly beaten egg, cream, or tomato, and substituted for either of the fillings.

Take six whole medium-sized fresh green peppers or canned whole pimientos. If fresh peppers are used slice a round off the top, remove seeds, and save the top to replace. Soak in cold water (2 tablespoons salt to 1 quart water) for half an hour; rinse in clear, cold water. Drain, press in the filling, and replace the top, and fasten it in place with wooden toothpicks. Put the stuffed peppers in a baking pan, pouring around them enough water to cover the bottom of the pan one-half inch. Bake in a medium hot oven for 20 to 30 minutes. When canned pimientos are used, remove from cans, discard liquor; and allow the pimientos to stand in a bowl for about 15 minutes to aerate before using, thus giving them a better flavor. Stuff as for green peppers and bake for 10 to 15 minutes.

ESCALLOPED DISHES.

Escalloped dishes are baked mixtures, usually made of cooked cold foods with the addition of seasoning, sauce, and bread crumbs. Either fresh or canned peppers may be used to advantage in escalloped dishes made of potatoes, tomatoes, rice, macaroni, cabbage, cauliflower, or chayotes.

ESCALLOPED POTATOES WITH PEPPERS.

4 medium-sized cold boiled potatoes.	1 chopped red pepper.
1 cup cream sauce.	1 chopped green pepper.
1 slice of onion (minced).	$\frac{1}{2}$ tablespoon parsley (minced).

Season with salt and pepper.

Cut the potatoes into 1-inch cubes. Put a layer of potatoes in the bottom of a buttered baking dish. Mix minced pepper, parsley, onion, and seasoning, and add a layer of this mixture. Continue putting alternate layers of each until the mixture is all used. Pour over this the cream sauce and put a thin layer of buttered bread crumbs on top. Bake for 25 minutes. Serve hot.

To make buttered crumbs, melt 1 tablespoon butter and stir into it 1 cup soft crumbs.

CREAM SAUCE.

2 tablespoons butter.		$\frac{1}{2}$ teaspoon salt.
1 cup milk.		$\frac{1}{2}$ teaspoon pepper.
2 tablespoons flour.		

Melt the butter in a saucepan, being careful to see that it does not burn; add the flour and rub smooth. Add the milk, one-third at a time, stirring to mix well, and allow it to boil after each addition of milk. Beat well.

CREOLE SAUCE.

1 pint tomato sauce (about the consistency of catchup).		2 tablespoons chopped onion.
$\frac{1}{2}$ cup green pepper (cut in 1-inch cubes or strips).		1 tablespoon sugar.
$\frac{1}{2}$ cup red pepper (cut in 1-inch cubes or strips).		2 tablespoons butter.
1 tablespoon celery seed (crushed).		1 bay leaf.
		$\frac{1}{2}$ tablespoon minced parsley.
		4 tablespoons minced ham or bacon.

Season with salt and pepper.

Make tomato sauce by first cooking the tomatoes and putting them through a sieve. Cook the pulp until about the consistency of catchup. Chop the onion and fry in the butter until yellow; add the pepper, tomato sauce, ham, and seasoning, and simmer for half an hour. Serve hot.

This creole sauce can be used in omelets, with ricé croquettes, veal, lamb, boiled or baked fish, in soup, and with creole chicken. When creole sauce is to be canned, omit the ham or bacon and simmer only 15 minutes before packing. Process in 10-ounce glass jars for 20 minutes in a water bath at boiling temperature. Further information is given under the heading "Canning peppers" (p. 3).

CREOLE CHICKEN.

1 medium-sized fowl.		$\frac{1}{4}$ cup chopped onion.
2 cups tomato.		$\frac{1}{2}$ cup rice.
1 cup okra.		1 teaspoon salt.
1 cup chopped sweet peppers.		1 cup boiling water.
1 tablespoon fat.		

Dress the fowl and cut into joints. Melt the fat, add onion and pepper. Cook for a few minutes to develop flavor. Then add salt, tomato, and okra, and simmer for 10 minutes. Place layers of the chicken, vegetable mixture, and rice in cooking vessel until all is used. Pour over this 1 cup boiling water. Simmer for one-half hour and put in fireless cooker for three hours without the hot disk or two hours with it. Additional seasoning of ham or bacon, parsley and bay leaf, may be used.

DUTCH EGGS.

6 hard cooked eggs.		1 cup white sauce.
$\frac{1}{2}$ cup grated cheese.		1 sweet red pepper cut into strips.

Cut the eggs into quarters and place about one-fourth of the amount in a buttered baking dish. Cover this layer with sauce, and sprinkle over it a layer of the cheese; then a few pieces of the pepper. Repeat until the dish is full. Sprinkle bread crumbs on top, dot with butter, and brown in a hot oven.

SPANISH SOUP.

4 tablespoons butter.		4 tablespoons flour.
4 tablespoons green pepper (chopped).		5 pints stock.
4 tablespoons red pepper (chopped).		1 quart tomatoes (canned or stewed).
$\frac{1}{2}$ medium-sized onion (chopped).		$\frac{1}{2}$ tablespoon salt.
$\frac{1}{4}$ pound macaroni.		$\frac{1}{2}$ teaspoon pepper.
1 bay leaf.		1 teaspoon vinegar.

Cook chopped peppers and onion in the butter for 5 minutes; add flour, heated stock, and strained tomatoes; strain, season, add cooked macaroni, and just before serving add the vinegar.

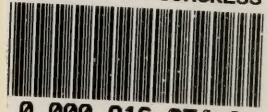
The peppers and onion may be minced by putting them through a meat grinder.

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